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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,930	06/13/2005	Bernhard Faust	112740-1071	5935
29177 7590 12/31/2007 BELL, BOYD & LLOYD, LLP P.O. BOX 1135 CHICAGO, IL 60690			EXAMINER CHOW, CHARLES CHIANG	
			ART UNIT 2618	PAPER NUMBER
			MAIL DATE 12/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/538,930		FAUST, BERNHARD	
	Examiner		Art Unit	
	Charles Chow		2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-39 is/are pending in the application.
- 4a) Of the above claim(s) 1-20 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-35 is/are allowed.
- 6) ☒ Claim(s) 36-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

1. This office action is for amendment 10/4/2007.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thornton in view of Lin [US 5,635,927].

For claim 36, Thornton teaches an input device 75, but fails to teach the method for the production of an input device comprising producing a flexible carrier, fixing means & molding the cap.

Thornton, Inagaki & Lin fail to teach the producing a flexible carrier and at least on cap for key entry on the input device, the producing a flexible carrier and at least on cap for key entry on the input device.

Lin teaches the producing a flexible carrier [rubber key body 2 via heating process] and at least on cap [key cap 1] for key entry on the input device [character entry via key 1, Fig. 5],

wherein the flexible carrier comprises at least one projection [the rubber key body 2] that is at least partially guided through a recess [the hole for the switch, col. 2, lines 49-53] of a mechanically stable fixing means [the hole formed by the fixing means, cover shell 3, col. 2, lines 49-53] , and extended to the cap as the result of a thermoplastic shaping or reshaping process [the extending of the rubber key body 2 to the bottom of the key cap 1 via the heating sealing process, col. 1, lines 56-67 & col. 3, lines 27-36], and

molding the cap on the flexible carrier after the fixing means and flexible carrier have be assembled [the molding of the rubber key body 2, together with key 1, from a vulcanized rubber, the assembling flexible carrier 2 to the cover shell 3, col. 1, lines 56-67, col. 2, line 36 to col. 3, line 41], in order to produce the entry key assembly for entering the characters. Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to upgrade Thornton with Lin's key switch, such that the entry key could be produced via the heating sealing process.

For claim 37, Thornton fails to teach the cap is produced as a single part from a translucent material for the cap.

Lin teaches the wherein the cap is produced as a single part from a translucent material and is connected to the flexible carrier [the transparent convex top 10 is bonded to the rubber key body 2 through heating process, col. 2, line 47-59 & col.3, lines 19-26], to upgrade the key cap, such that the key cap can be visibly see through for the character marking on the key, for character entry, as the rationale to combine Lin to Thornton.

For claim 38, Thornton fails to teach the further comprising fixing the at least one cap to and/or on a projection of the flexible carrier.

Lin teaches the fixing the at least one cap to and/or on a projection of the flexible carrier [the heating sealing process fixing the key cap 1 to the top of the projection of the rubber key body 2, Fig. 1, col. 2, lines 36-59 & col. 3, lines 27-36], to securely bond the key cap to rubber key carrier 2, as the rationale to combine Lin to Thornton.

For claim 39, Thornton fails to teach the thermal locking. Lin teaches the wherein the step of fixing the at least one cap includes one of bonding, welding and form-locking, with thermal treatment [the heating/thermal locking of the key cap 1 to bond the cap 1 to key

body 2, Fig. 1, col. 2, lines 36-59 & col. 3, lines 27-36], to securely bond the key cap to rubber key carrier 2, as the rationale to combine Lin to Thornton.

Allowable Subject Matter

3. The following is an examiner's statement of reasons for allowance:

Claims 21-35 are allowable over the prior art of record. The prior arts fail to teach the allowable features in the claims, singly, particularly, or in combination, or rendering obviousness.

Applicant has canceled claims 1-20, and amended independent **claim 21** with allowable limitation features, for the

at least one cap connected to a top surface of the flexible carrier;

at least one fixing means, arranged beneath a first plane that include the at least one cap, and above a second plane of the flexible carrier connected to the cap;

wherein fixing means, in one area of at least one terminal edge, secures the input device in or on the housing, together for the other limitation features in the claim.

The dependent claims 22-35 are also allowable due to their dependency upon their independent claim and comprising additional claimed features associated to the features of the independent claim.

The closest prior art, **Thornton [US 5,917,906]**, teaches the radio telephone 10 having the touch pad assembly 75 as the user interface [Fig. 1 & col. 1, line 59 to col. 2, line 16], the flexible carrier, ploy dome sheet 31 [Fig. 1, col. 4, lines 43-46], the entry pad cap overlay 50 is contacting to the top of surface of dome on flexible carrier 31, having spacer 40, Fig. 3/ Fig. 1; the user's pressing entry pad 51 & force goes through the spacer 40, to dome 30 [col. 4, line 61 to col. 4, line 61 to col. 5, line 11], but fail to teach the at least one cap connected to a top surface of the flexible carrier; at least one fixing means, arranged

beneath a first plane that include the at least one cap, and above a second plane of the flexible carrier connected to the cap; wherein fixing means, in one area of at least one terminal edge, secures the input device in or on the housing.

Lin [US 5,635,927] teaches the at least one cap connected to a top surface of the flexible carrier [the rubber key body 2 is joined to the key cap 1, from the heating sealing process, Fig. 1, col. 1, lines 56-67 & col. 3, lines 27-36], in order to secure/seal the key cap to the top of the key body, via the heating bonding process [col. 1, lines 35-39], but fails to teach the at least one fixing means, arranged beneath a first plane the includes the at least one cap, and above a second plane of the flexible carrier.

Washizuke et al. [US 4,074,118] the fixing means 48/49 is located beneath a first plane having key top 50, and is also located above the second plane having rubber plate carrier 45, Fig. 3, col. 5, lines 5-24 & 48/49 secures to the cabinet 67, col. 46-49], but Thornton, Lin, Washizuke fail to teach the wherein the fixing means in one area of at least one terminal edge, secures the input device in or on the housing.

Kfoury et al. [US 2003/0044,000 A1] teaches the 634 secures, snaps, the input device, key 610, to the housing at bump 802, Fig. 7, Fig. 8. paragraph 0027, 0022], but fails to teach the at least one fixing means, arranged beneath a first plane that include the at least one cap, and above a second plane of the flexible carrier connected to the cap.

Other prior arts in below were also considered, but they fail to teach the above allowable features.

Prioux et al. [US 4,499,343] teaches the top key cap layer 44 with protrusion 46, the spacer 38 with openings 40, the flexible plastic layer 12 with protrusions 24 with underside switch contact [Fig. 1 & its corresponding description in the specification].

Boedecket [US 5,747,756] teaches the Boedecker teaches the at least one cap connected to the flexible carrier [cap 128B connected to the protrusion 112B of the flexible layer 124, Fig. 1, col. 4, line 55 to col. 5, lines 12].

Other prior arts are also considered. They are: **Inagaki [US 5,613,599]**, **Aaltonen et al. [US 6,274,825 B1]**, **Jekot et al. [US 4,862,499]**, **Domzalski et al. [US 5,898,147]**, **Hahm et al. [US 2001/0003,539 A1]**, **Anzai [US 6,639,159 B2]**, **Park [US 2002/0032,011 A1]**, **Pratt et al. [US 2004/0085,360 A1]**.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Argument

4. Applicant's arguments with respect to claims 36-39 have been considered but are moot in view of the new ground(s) of rejection.

Regarding applicant's amendment for the argument for the no teachings for
a) at least on cap connected to a top surface of said flexible carrier; b) wherein the flexible carrier comprises at least one projection that is at least partially guided through a recess of a mechanically stable fixing means, and extended to the cap as the result of a thermoplastic shaping or reshaping process [applicant amendment, pages 7-8, dated 10/4/2007],

Lin [US 5,635,927] teaches a) the at least one cap connected to a top surface of the flexible carrier [rubber key body 2 is joined to the key cap 1, by applying of the heating sealing process, Fig. 1, col. 1, lines 56-67 & col. 3, lines 27-36],

b) wherein the flexible carrier comprises at least one projection [the rubber key body 2] that is at least partially guided through a recess [the hole for the switch] of a mechanically

stable fixing means [the hole formed by the fixing means, cover shell 3, col. 2, lines 49-53],
and extended to the cap as the result of a thermoplastic shaping or reshaping process
[the extending of the rubber key body 2 to the bottom of the key cap 1 via the heating
sealing process, col. 1, lines 56-67 & col. 3, lines 27-36].

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (571) 272-7889. The examiner can normally be reached on 8:00am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public

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PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles Chow *CC.*

December 7, 2007.

Nguyen Vo
12-26-2007

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PRIMARY EXAMINER